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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,858	04/02/2004	Eric F. Bryan	66396-135	9854

7590 05/25/2005

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EXAMINER

GUADALUPE, YARITZA

ART UNIT PAPER NUMBER

2859

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

8m

Office Action Summary	Application No. 10/815,858	Applicant(s) BRYAN, ERIC F.	
	Examiner Yaritza Guadalupe McCall	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 7-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/22/2004; 11/2/2004</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1 – 6 and 16 – 20, in the reply filed on May 5, 2005 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5 – 6, 16 and 17 are rejected under 35 U.S.C. 102 (b) as being anticipated by Pelta (US 4,138,825).

With respect to claim 1, Pelta discloses a method and apparatus for wheel run-out compensation, the method comprising the step of attaching to a wheel a measurement head (46) including an accelerometer (See Column 6, lines 15 – 19); and measuring, with the accelerometer, a wheel angle with respect to gravity.

In regards to claim 5, Pelta also discloses a method and apparatus further comprising the step of calculating, by a computing device (50), at least one wheel alignment parameter based on the measured angle, i.e., camber and toe, run-out, etc.

Regarding claim 6, Pelta further teaches a method and apparatus wherein the wheel alignment parameter includes at least one of toe, camber, and steering axis inclination (See Columns 7 and 8, lines 17 – 44 and 13 – 27 respectively).

With regards to claim 16, Pelta discloses a wheel run-out compensation system comprising a measurement head (46) including an accelerometer (See Column 6, lines 15 – 19) configured to calculate a wheel angle with respect to gravity; and a computing device (50) operatively coupled to the measurement head and configured to receive the wheel angle and to compute a wheel alignment parameter based on the wheel angle.

Regarding claim 17, Pelta further teaches a system wherein the wheel alignment parameter includes at least one of toe, camber, and steering axis inclination (See Columns 7 and 8, lines 17 – 44 and 13 – 27 respectively).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 – 3 and 18 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pelta (US 4,138,825) in view of Babala (US 6,792,792).

Pelta discloses a method and apparatus for wheel run-out compensation as stated in paragraph 3 above.

Pelta does not disclose the accelerometer being particularly a solid proof mass or a MEMS device as stated in claims 2 – 3 and 18 – 19.

In regards to the MEMS device as stated in claims 2 and 18 : Babala discloses a system for testing angular rate sensors in automobiles comprising a MEMS sensor (23) included in a Vehicle Stability Control System for measuring yaw about one of the principle vehicle axes, said MEMS sensor featuring micro-machined mechanical components and integrated support electronics, therefore, reducing considerably the overall size of the sensor (See Column 1, lines 45 – 67). Therefore, it would have been obvious to a person having ordinary skill in the art at the

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time the invention was made to include a MEMS sensor device as taught by Babala in the apparatus disclosed by Pelta in order to provide an apparatus capable of performing multiple tests and measurements in a compact single structure featuring micro-machined mechanical components and integrated support electronics, therefore, reducing considerably the overall size of the sensor (See Column 1, lines 45 – 67).

With respect to the accelerometer including a solid proof mass as stated in claims 3 and 19 : The use of the particular type of accelerometer claimed by applicant, i.e., solid proof mass, absent any criticality, is considered to be nothing more than a choice of engineering skill, choice or design because 1) neither non-obvious nor unexpected results, i.e., results which are different in kind and not in degree from the results of the prior art, will be obtained as long as an accelerometer is provided for purposes of measuring a wheel alignment parameter as already suggested by Pelta and Babala, 2) the accelerometer claimed by Applicant and the accelerometer used by Pelta and Babala are well known alternate types of accelerometers which will perform the same function, if one is replaced with the other, of measuring a wheel alignment parameter, and 3) the use of the particular type of accelerometer by Applicant is considered to be nothing more than the use of one of numerous and well known alternate types of accelerometers that a person having ordinary skill in the art would have been able to provide using routine experimentation in order to measure a wheel alignment parameter as already suggested by Pelta and Babala.

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6. Claims 4 and 20 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Pelta (US 4,138,825) in view of Gaitan et al. (US 6,171,880).

Pelta discloses a method and apparatus for wheel run-out compensation as stated in paragraph 3 above.

Pelta does not disclose the accelerometer measuring internal changes in heat transfer as stated in claims 4 and 20.

In regards to claims 4 and 20 : Gaitan et al. discloses a method of manufacturing convective accelerometers and tilt sensor devices, provided with thermocouples and integrated circuits so as to provide accelerometers for measuring internal changes in heat transfer caused by acceleration (See Column 4, lines 42 – 55) in order to increase the efficiency of the sensors by compensating for thermal parameters. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the accelerometer provided by Pelta with a convective accelerometer that compensates for thermal parameters as taught by Gaitan et al. in order to increase the efficiency of the sensors and prevent from possible damages to vehicles that may result in critical failures if not corrected.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are considered of relevance to the present application.

- a. McCall et al. (US 6,311,555)
- b. Alger et al. (US 5,191,713)
- c. Senften (US 3,892,042)
- d. Imbert et al. (US 6,014,814)
- e. Magiawala et al. (US 6,741,169)
- f. Hollandsworth et al. (US 4,274,738)

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yaritza Guadalupe McCall whose telephone number is (571)272-2244. The examiner can normally be reached on 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Yaritza Guadalupe-McCall
Patent Examiner
Art Unit 2859

YGM
May 23, 2005